CITY OF SPRINGFIELD
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2004

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Report Summary:

Highlights	January 1, 2003	January 1, 2004
Contributions		
Funding Schedule FY 2006	26,250,216	25,400,180
Funding Schedule FY 2007	27,275,564	26,366,529
Funded Ratios		
GAS No. 25	46.5%	47.3%
Participants		
Actives	3,474	3,365
Inactives	1,041	943
Retirees and Beneficiaries	2,448	2,491
Disabilities	414	442
Total	7,377	7,241
Payroll		
Payroll of Active Members	$113,848,147	$109,937,408
Average Payroll	32,771	32,671
Normal Cost		
Employer	3,317,469	1,728,953
Employee	8,859,601	8,551,489
Administrative Expenses	550,000	550,000
Total	12,727,070	10,830,442
Actuarial Accrued Liabilities		
Actives	236,599,081	226,656,886
Retirees, Beneficiaries, Disabilities and Inactives	336,539,212	388,948,282
Total	573,138,293	615,605,168
Actuarial Value of Assets	266,402,470	291,016,758
Unfunded Actuarial Accrued Liabilities	$306,735,823	$324,588,410

Introduction

This report presents the City of Springfield actuarial valuation findings as of January 1, 2004, under the Commonwealth of Massachusetts Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws "M.G.L", as of January 1, 2004.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employees' Retirement Administration Commission by the City of Springfield Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2004. It assumed the new annual cost-of-living adjustments (COLA) of 3.00%.

The valuation and forecast do not account for:

- Any other subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

Since the last actuarial valuation, the total unfunded actuarial accrued liability increased by 5.8% to $324,588,410. The increase is the result of net unfavorable actuarial experience during the preceding years. The primary component of the unfavorable experience was the adoption of ERIs. The increase was partially offset by an annual investment return greater than the 8.50% assumption, salary increases less than the 5.5% assumption and a change in the assumed salary increases.

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Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2003	January 1, 2004
Superannuation	$7,283,000	$5,553,855
Death	883,956	889,126
Disability	1,398,037	1,221,860
Terminations	2,612,077	2,615,601
Administrative Expenses	550,000	550,000
Total Normal Cost	12,727,070	10,830,442
% of Pay	11.2%	9.9%
Employee Contributions	8,859,601	8,551,489
% of Pay	7.8%	7.8%
Employer Normal Cost	$3,867,469	$2,278,953
% of Pay	3.4%	2.1%

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Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits earned by the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2003	January 1, 2004
Actives		
Superannuations	$220,496,374	$207,432,463
Death	13,373,422	$15,921,452
Disability	11,529,201	$11,869,857
Terminations	(8,799,916)	($8,566,886)
Retirees and Inactives		
Retirees	266,567,991	312,688,409
Disabled Retirees	61,738,404	69,075,748
Inactives	8,232,817	7,184,125
Total	$573,138,293	$615,605,168

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactives as well as all benefits earned and expected to be earned in the coming years by the actives. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2003	January 1, 2004
Actives		
Superannuation	$285,360,319	$252,672,363
Death	21,051,128	23,153,408
Disability	23,653,399	21,438,425
Terminations	14,190,950	12,789,347
Retirees and Inactives		
Retirees	266,567,991	312,688,409
Disabled Retirees	61,738,404	69,075,748
Inactives	8,232,817	7,184,125
Total	$680,795,008	$699,001,825

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2003	January 1, 2004
Cash equivalents	711,154	$97,956
Short term investments	11,961,178	18,831,292
Fixed income securities	68,528,055	64,987,075
Equities	115,769,745	166,263,157
International	0	0
Real Estate	0	0
Venture Capital	0	0
Other	18,588,227	8,127,363
Accounts receivable	6,595,343	8,224,402
Accounts payable	(961,674)	(11,167,784)
Accrued income	810,031	681,039
Total Market Value	$222,002,058	$256,044,499
Total Actuarial Value	$266,402,470	$291,016,758

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the actuarial value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 20%. The calculation of the actuarial value of assets as of January 1, 2004 is presented in Table V.

Table V

		January 1, 2004
(1)	Market value at January 1, 2003	$222,002,058
(2)	2003 Contributions	$36,500,933
(3)	2003 Benefit Payments	($48,378,385)
(4)	Net interest adjustment at 8.5% on (1), (2), and (3) to December 31, 2003	$18,365,383
(5)	Expected market value on January 1, 2004 (1) + (2) + (3) + (4)	$228,489,989
(6)	Actual market value on January 1, 2004	$256,044,499
(7)	2003 (Gain) / Loss	($27,554,510)
(8)	80% of 2003 (Gain) / Loss	($22,043,608)
(9)	2002 (Gain) / Loss	$58,072,831
(10)	60% of 2002 (Gain) / Loss	$34,843,699
(11)	2001 (Gain) / Loss	$43,676,996
(12)	40% of 2001 (Gain) / Loss	$17,470,799
(13)	2000 (Gain) / Loss	$23,506,850
(14)	20% of 2000 (Gain) / Loss	$4,701,370
(15)	Actuarial value on January 1, 2004, (6) + (8) + (10) + (12) + (14)	$291,016,758
(16)	but not less than 80% nor greater than 120% of (6)	$291,016,758
	Ratio of actuarial value to market value	113.66%

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Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2003	January 1, 2004
Actuarial Accrued Liability	$573,138,293	$615,605,168
Actuarial Assets	266,402,470	291,016,758
Unfunded Actuarial Accrued Liability	$306,735,823	$324,588,410
Funded Status	46.5%	47.3%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2028
  $ 323,020,262 over 24 years with 4.5 % increasing payments
- Level amortization of the Early Retirement Incentive unfunded liability by June 30, 2008
  $ 846,999 over 4 years
- Level amortization of the Water & Sewer Early Retirement Incentive unfunded liability by June 30, 2020
  $ 721,151 over 15 years
- Interest adjustment for payments contributed monthly over fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2003	January 1, 2004
Normal cost	$3,867,469	$2,229,451
Amortization of the unfunded accrued liability	18,387,866	20,948,673
Amortization of 1992 ERI liability	238,321	238,321
Amortization of Sewer and Water ERI, FYE06	0	87,691
Total cost	$22,493,656	$23,504,136
% of Pay	19.8%	21.4%
Fiscal 2006 cost	$26,250,216	$25,400,180
Fiscal 2007 cost	$27,275,564	$26,366,529

* Values shown are based on 1/1/2004 results forecasted to 1/1/2005 for the FYE06 appropriation.

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 with replacement of members contributing 5%, 7%, and 8% with those contributing 9%. Payments are assumed to be spread over the fiscal year.

The employer total cost is expected to increase during the next 25 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost increase represents on average about 22.2% of payroll and will decrease to 22.6% by the time the unfunded liabilities are fully paid off.

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Appropriation Forecast
(amounts in thousands)

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2005	$109,937	$8,551	$2,464	$21,928	$24,392	22.2	47.3
2006	114,060	9,007	2,410	22,990	25,400	22.3	47.9
2007	118,337	9,485	2,349	24,017	26,367	22.3	48.8
2008	122,775	9,986	2,280	25,082	27,363	22.3	49.8
2009	127,379	10,511	2,203	25,938	28,140	22.1	50.9
2010	132,156	11,062	2,116	27,101	29,217	22.1	52.2
2011	137,112	11,639	2,020	28,316	30,336	22.1	53.6
2012	142,253	12,243	1,914	29,586	31,500	22.1	55.1
2013	147,588	12,877	1,797	30,913	32,710	22.2	56.8
2014	153,122	13,541	1,669	32,300	33,968	22.2	58.6
2015	158,864	14,237	1,528	33,749	35,277	22.2	60.4
2016	164,822	14,966	1,374	35,263	36,638	22.2	62.4
2017	171,003	15,730	1,207	36,846	38,053	22.3	64.5
2018	177,415	16,529	1,026	38,500	39,525	22.3	66.7
2019	184,068	17,367	829	40,228	41,056	22.3	69.0
2020	190,971	18,244	615	42,034	42,649	22.3	71.5
2021	198,132	19,163	385	43,826	44,211	22.3	74.0
2022	205,562	20,125	136	45,798	45,935	22.3	76.7
2023	213,271	21,132	(131)	47,859	47,728	22.4	79.6
2024	221,268	22,186	(419)	50,013	49,594	22.4	82.6
2025	229,566	23,290	(729)	52,264	51,535	22.4	85.7
2026	238,175	24,445	(1,060)	54,616	53,555	22.5	89.0
2027	247,106	25,654	(1,416)	57,073	55,657	22.5	92.5
2028	256,373	26,919	(1,797)	59,642	57,844	22.6	96.2
2029	265,987	27,929	(1,865)	0	0	0.0	100.0
2030	275,961	28,976	(1,935)	0	0	0.0	100.0
2031	286,310	30,063	(2,007)	0	0	0.0	100.0
2032	297,046	31,190	(2,083)	0	0	0.0	100.0
2033	308,186	32,359	(2,161)	0	0	0.0	100.0
2034	319,743	33,573	(2,242)	0	0	0.0	100.0
2035	331,733	34,832	(2,326)	0	0	0.0	100.0
2036	344,173	36,138	(2,413)	0	0	0.0	100.0

* Calendar basis

** As of beginning of the Fiscal Year

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GAS No. 25 and GAS No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2003	January 1, 2004
(1)	Actuarial Accrued Liability	$573,138,293	$615,605,168
(2)	Actuarial Value of Assets	266,402,470	291,016,758
(3)	Unfunded Actuarial Accrued Liability	306,735,823	324,588,410
(4)	Funded Ratio (2)/(1)	46.5%	47.3%
(5)	Covered Payroll	$113,848,147	$109,937,408
(6)	UAAL as a percentage of payroll: (3)/(5)	269.4%	295.2%
(7)	Annual Required Contribution (ARC)	$24,363,194	$24,391,985
(8)	Net Pension Obligation	$0	$0

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PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Mellon Human Resources & Investor Solutions as of January 1, 2004.

The normal cost for employees on that date was:	$8,551,489	7.8% of pay
The normal cost for the employer was:	1,728,953	1.6% of pay

The actuarial liability for active members was:	$226,656,886
The actuarial liability for retired members was:	388,948,282
Total actuarial accrued liability:	615,605,168
System assets as of that date:	291,016,758
Unfunded actuarial accrued liability:	$324,588,410

The ratio of system's assets to total actuarial liability was 47.3%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.5%
Rate of Salary Increase:	5.0%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/04	$291,016,758	$615,605,168	$324,588,410	47.3%	$109,937,408	295.2%
01/01/03	266,402,470	573,138,293	306,735,823	46.5%	113,848,147	269.4%
01/01/02	268,001,414	570,958,349	302,956,935	46.9%	137,353,027	220.6%
01/01/01	291,264,389	539,502,444	248,238,055	54.0%	131,362,563	189.0%
01/01/00	292,171,562	515,715,954	223,544,392	56.7%	126,094,614	177.3%
01/01/99	266,826,047	490,550,541	223,724,494	54.4%	110,831,734	201.9%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

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Age/Service Distribution with Salary as of January 1, 2004

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	29	2	0	0	0	0	0	0	0	31
	15,403	10,644	0	0	0	0	0	0	0	15,096
25-29	98	46	0	0	0	0	0	0	0	144
	19,528	24,331	0	0	0	0	0	0	0	21,062
30-34	101	150	45	2	0	0	0	0	0	298
	22,028	36,911	42,456	33698	0	0	0	0	0	32,683
35-39	102	176	119	42	1	1	0	0	0	441
	21,129	36,543	45,799	41,890	13,388	1244	0	0	0	35,852
40-44	129	134	102	129	36	1	1	0	0	532
	19,356	29,415	36,287	47,063	49,325	14268	42546	0	0	33,916
45-49	121	137	86	108	86	55	0	0	0	593
	20,659	23,427	31,862	42,445	55,342	49,060	0	0	0	34,555
50-54	88	99	86	108	72	95	36	1	0	585
	20,535	28,551	28,314	30,916	48,097	51,852	49,901	39,163	0	35,268
55-59	59	78	77	84	31	32	56	5	0	422
	20,765	27,331	26,966	27,527	31,918	46,041	56,928	52,632	0	32,368
60-64	36	38	37	45	20	22	13	7	1	219
	17,525	25,745	27,188	25,159	29,372	33,896	45,031	57,637	70,745	28,037
65-69	14	22	9	7	5	2	3	3	0	65
	10,370	19,077	22,040	26,548	23,921	44,293	36,718	21,834	0	20,506
70+	7	2	5	6	4	3	2	4	2	35
	5,478	15,242	16,076	19,571	16,205	19,535	23,011	19,723	36,113	16,777
Total Employees	784	884	566	531	255	211	111	20	3	3,365
Average Salary	19,877	30,143	34,626	36,852	46,168	47,422	51,969	42,509	47,657	32,671

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Retiree Distribution as of January 1, 2004

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	1	1	0	1,760	1,760
40-44	2	1	3	142,622	1,522	144,145
45-49	19	3	22	250,946	31,562	282,508
50-54	46	16	62	1,076,908	169,743	1,246,651
55-59	128	51	179	3,759,291	485,121	4,244,411
60-64	145	124	269	3,945,365	1,346,373	5,291,738
65-69	157	157	314	3,778,796	1,688,463	5,467,259
70-74	208	218	426	4,016,971	2,094,391	6,111,363
75-79	252	220	472	4,171,153	1,668,289	5,839,441
80-84	193	209	402	2,351,334	1,502,544	3,853,878
85-89	86	91	177	706,375	498,338	1,204,713
90-94	31	42	73	252,931	215,548	468,480
95-99	13	13	26	82,237	78,238	160,475
Total	1,280	1,146	2,426	24,534,931	9,781,891	34,316,822
Average (Age/Payment)	72.3	74.7	73.4	19,168	8,536	14,145
Frequency Percent	52.8	47.2	100	71.5	28.5	100

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Disabled Retiree Distribution as of January 1, 2004

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	2	2	4	64,856	82697	147,553
35-39	6	0	6	155,306	0	155,306
40-44	15	2	17	317,742	52026	369,768
45-49	26	3	29	611,924	66,610	678,534
50-54	47	9	56	1,308,315	148,632	1,456,947
55-59	61	8	69	1,550,155	91,620	1,641,774
60-64	49	3	52	1,150,679	16,317	1,166,996
65-69	54	2	56	1,181,296	17,202	1,198,498
70-74	37	5	42	751,900	46,459	798,359
75-79	59	3	62	995,489	24,462	1,019,951
80-84	30	2	32	461,580	29,847	491,428
85-89	13	0	13	215,079	0	215,079
90-94	3	0	3	49,258	0	49,258
95-99	1	0	1	6,655	0	6,655
Total	403	39	442	8,820,233	575,873	9,396,106
Average (Age/Payment)	64.7	58.9	64.1	21,886	14,766	21,258
Frequency Percent	91.2	8.8	100	93.9	6.1	100

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EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2004	$43,199	$8,551	$24,392	$23,158	$12,902
2005	43,591	9,007	25,400	24,258	15,074
2006	44,125	9,485	26,367	25,538	17,265
2007	44,608	9,986	27,363	27,008	19,749
2008	45,470	10,511	28,140	28,673	21,854
2009	46,288	11,062	29,217	30,521	24,512
2010	47,289	11,639	30,336	32,590	27,276
2011	48,588	12,243	31,500	34,882	30,037
2012	50,187	12,877	32,710	37,398	32,798
2013	52,032	13,541	33,968	40,140	35,617
2014	53,966	14,237	35,277	43,119	38,667
2015	55,966	14,966	36,638	46,357	41,995
2016	58,115	15,730	38,053	49,874	45,542
2017	60,589	16,529	39,525	53,681	49,146
2018	63,135	17,367	41,056	57,793	53,081
2019	65,664	18,244	42,649	62,242	57,471
2020	68,150	19,163	44,211	67,069	62,293
2021	70,564	20,125	45,935	72,311	67,807
2022	72,936	21,132	47,728	78,026	73,950
2023	75,211	22,186	49,594	84,270	80,839
2024	77,246	23,290	51,535	91,113	88,692
2025	78,849	24,445	53,555	98,644	97,795
2026	80,142	25,654	55,657	106,965	108,134
2027	81,276	26,919	57,844	116,174	119,661
2028	82,157	27,929	(1,865)	126,123	70,030
2029	82,775	28,976	(1,935)	132,084	76,350
2030	82,885	30,063	(2,007)	138,605	83,776
2031	82,573	31,190	(2,083)	145,776	92,310
2032	82,013	32,359	(2,161)	153,685	101,870
2033	84,308	33,573	(2,242)	162,288	109,311

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2004, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees for the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporaries, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

(iv) if an employee is a State police officer (Group 3), attainment of age 50

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at Retirement	Percentage of Average Salary Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For Group 3 (State police), the benefit is 50% of the participant's final year's rate of regular salary, plus an additional 1% for each year of service in excess of 20 years. In addition, for veterans (all groups) there is an additional benefit of $15 per year for each year of service, up to a maximum of 20 years of service.

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum pension benefit on which a COLA may be granted is $12,000. All COLA's granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2004.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.50% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase at a rate according to the following table:

Year	
2004	3.0%
2005	3.0%
2006	3.5%
2007	3.5%
2008	4.0%
2009	4.0%
2010	4.5%
2011	4.5%
2012+	5.0%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lessor of the pension amount and $12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). For Funding Schedule purposes, a 5-year smoothing method has been adopted. Asset gains and losses will be recognized at a rate of 20% per year.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates based on the following service:

Age	General Employees	Police and Fire Employees
20	0.36007	0.00000
30	0.16653	0.03309
40	0.06925	0.01118
50	0.04391	0.00610

9. Annual Rate of Mortality

It is assumed that both preretirement and postretirement mortality are represented by the 1983 Group Annuity Mortality Table (with margin) for males and females. Mortality for disabled members is represented by the 1983 Annuity Mortality Table set forward ten years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	General Employees	Police and Fire Employees
50	0.0000	0.1000
51	0.0000	0.0200
52	0.0000	0.0200
53	0.0000	0.0200
54	0.0000	0.0200
55	0.1255	0.2500
56	0.0321	0.0500
57	0.0310	0.0500
58	0.0334	0.0500
59	0.0348	0.0500
60	0.0784	0.2500
61	0.0692	0.0500
62	0.1511	0.0500
63	0.1071	0.0500
64	0.1037	0.0500
65	0.3568	1.0000
66	0.2214	1.0000
67	0.2159	1.0000
68	0.2164	1.0000
69	0.2536	1.0000
70	1.0000	1.0000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	**General Employees**	**Police and Fire Employees**
20	0.00015	0.00049
30	0.00027	0.00114
40	0.00055	0.00434
50	0.00152	0.00750

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2004 is $550,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Springfield Contributory Retirement System contributing as of January 1, 2004, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost is reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Mellon Human Resources & Investor Solutions

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Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 02-4086

October 2004

BREAKOUTS

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Breakouts

		Total	All Others	Community Development	Hampden County Employment and Training Consortium	Schools	Water/Sewer Department	Massachusetts Career Development Institute	Housing Authority	Library & Museums
(1)	Payroll of Active Participants	109,937,408	$80,581,865	$3,054,588	$1,061,578	$11,687,894	$4,897,123	$2,155,736	$3,574,296	$2,924,328
	Percent of Total Payroll	100.00%	73.30%	2.78%	0.97%	10.63%	4.45%	1.96%	3.25%	2.66%
(2)	Total Employer Contributions									
	(a) ERI	318,359	238,321	0	0	0	80,038	0	0	0
	(b) Remaining Amortizations	20,948,673	15,355,377	582,373	203,202	2,226,844	932,216	410,594	680,832	557,235
	(c) Employer Normal Cost	1,658,826	1,215,920	46,115	16,091	176,333	73,818	32,513	53,912	44,125
	(d) Administrative Expenses	570,625	418,268	15,863	5,535	60,657	25,393	11,184	18,545	15,179
	(e) Total Appropriation	23,496,484	17,227,886	644,352	224,828	2,463,835	1,111,465	454,291	753,289	616,538
(3)	Fiscal 2006 Appropriation	25,400,180	18,623,698	696,558	243,043	2,663,456	1,201,516	491,098	814,321	666,490
(4)	Fiscal 2007 Appropriation	26,366,529	$19,331,938	$722,443	$253,119	$2,765,849	$1,247,137	$508,874	$846,366	$690,803
	Percent of Total Appropriation	100.00%	73.32%	2.74%	0.96%	10.49%	4.73%	1.93%	3.21%	2.62%

Appropriations are allocated based on the ratio of the division payroll to the total payroll.